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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/443,793	11/18/1999	DAVID E. ALBRECHT	505-02	7726

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EXAMINER	
PICKARD, ALISON K	
ART UNIT	**PAPER NUMBER**
3673	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/443,793	ALBRECHT, DAVID E.	
	Examiner	Art Unit	
	Alison K. Pickard	3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 28-35 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 28-35 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 28-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barbarin (3,704,021) in view of Breaker in view of Rode (3,561,793).

Barbarin discloses an apparatus comprising a planar one-piece plate 14 with an opening. A one-piece seal 12 is disposed in the opening. A support ring 11 is disposed within the annular seal. The support ring is thinner than the other elements to allow fluid to act on the seal 12 when clamped. However, the support ring does not appear to have an orifice providing the fluid connection and it does not appear to be metal. Breaker teaches an apparatus comprising a plate, seal, and support ring (see Figs. 28 and 29). Breaker teaches equivalent means to provide fluid communication to the seal, either an orifice2087 or making the ring thinner. Breaker teaches equivalent materials for such rings, such as plastic or metal. Thus, it would have been obvious for one of ordinary skill in the art at the time the invention was made to provide an orifice in the support ring of Barbarin to allow fluid communication to the seal as such is an equivalent means as taught by Breaker and to make the ring of metal as such is an equivalent material.

It is unclear if there are bolt holes in the plate of Barbarin. Rode teaches an apparatus comprising a plate and seal in the opening. Rode teaches using bolt holes in the plate (see Fig. 9) to ensure proper placement and retainment between elements. It would have been obvious to one

of ordinary skill in the art at the time the invention was made to modify the plate of Barbarin with bolt holes to ensure proper placement and securement.

Regarding claims 31 and 35, Barbarin does not appear to disclose the chamfers 20 are at an angle of about 45 degrees. It is not considered inventive to discover the workable or optimum ranges by routine experimentation absent the showing of criticality for such ranges. See In re Aller, 105 USPQ 233, 235 (CCPA 1955). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to make the angles about 45 degrees.

3. Claims 28-30 and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson (5,765,835) in view of Aichroth (3,167,322) in view of Jones (2,278,721).

Johnson discloses an apparatus providing a seal between two port faces comprising a planar, one-piece plate 33 having plural bolt holes 25 and an opening. A seal (o-ring) 41 is disposed within the boundary of the opening. A support ring 29 is disposed within the seal. The plate 33 has a pair of parallel surfaces. The opening allows a flow path perpendicular to the plate (see Fig. 1) and adjacent to the support ring. The support ring is chamfered (at 31) on an outer portion. Johnson does not disclose the seal is annular (i.e. circular). Aichroth teaches an apparatus providing a seal between port faces comprising a plate, seal, and support ring. Aichroth teaches that the apparatus can be circular or rectangular. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to make the seal (and therefore, the apparatus) annular as such are considered art equivalent shapes as taught by Aichroth.

Johnson does not disclose that the support ring has an orifice providing a fluid connection between the opening and seal. Jones teaches a seal between two port faces (of items 4 and 1,

seen best in Figures 2 and 3). The seal comprises a support ring 38 disposed within a seal 46. Jones teaches using an orifice 39 to provide a fluid connection between the opening (i.e. inner circumference of the ring 38) and the seal 46 to ensure a fluid tight seal. The orifice allows fluid pressure to press the seal upward, outward, and downward into fluid sealing abutment with the surfaces of the joint (see page 2, line 73 through page 3, line 10). (Note: the seal of Jones is oriented between two surfaces similar to those of Johnson. The orifices of Jones are arranged generally parallel to these surfaces and would be arranged parallel to the surfaces of Johnson. Also, the end of the orifice would be immediately adjacent and in connection with the path because the support ring is.) Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the support ring of Johnson with the orifices taught by Jones so that fluid pressure within the opening is communicated to the seal to force it into fluid tight sealing engagement and prevent leakage through the joint.

4. Claims 28-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aichroth in view of Jones in view of Rodes.

Aichroth discloses an apparatus providing a seal between port faces comprising a planar, one-piece plate 26 having an opening. A seal (o-ring) 22 is disposed within the boundary of the opening. A support ring 24 is disposed within the seal. The plate 26 has a pair of parallel surfaces. The opening allows a flow path perpendicular to the plate. The support ring is chamfered (at 32) on an outer portion. Aichroth does not disclose that the support ring has an orifice providing a fluid connection between the opening and seal. Jones teaches a seal between two port faces (of items 4 and 1, seen best in Figures 2 and 3). The seal comprises a support ring 38 disposed within a seal 46. Jones teaches using an orifice 39 to provide a fluid connection

between the opening (i.e. inner circumference of the ring 38) and the seal 46 to ensure a fluid tight seal. The orifice allows fluid pressure to press the seal upward, outward, and downward into fluid sealing abutment with the surfaces of the joint (see page 2, line 73 through page 3, line 10). (Note: the seal of Jones is oriented between two surfaces similar to those of Aichroth. The orifices of Jones are arranged generally parallel to these surfaces and would be arranged parallel to the surfaces of Aicroth. Also, the end of the orifice would be immediately adjacent and in connection with the path because the support ring is.) Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the support ring of Aicroth with the orifices taught by Jones so that fluid pressure within the opening is communicated to the seal to force it into fluid tight sealing engagement and prevent leakage through the joint.

Aichroth does not disclose bolt holes in the plate 26. Rode teaches an apparatus comprising a plate and seal in the opening. Rode teaches using bolt holes in the plate (see Fig. 9) to ensure proper placement and retainment between elements. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the plate of Aichroth with bolt holes to ensure proper placement and securement.

Regarding claims 31 and 35, Aichroth discloses two chamfers 32 at an angle with the axis of the support ring. However, Aichroth does not disclose that the angle is about 45 degrees. It is not considered inventive to discover the workable or optimum ranges by routine experimentation. See In re Aller, 105 USPQ 233, 235 (CCPA 1955). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to make the chamfer at an angle of 45 degrees.

5. Claims 28-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aichroth in view of Breaker in view of Rodes.

Aichroth discloses an apparatus providing a seal between port faces comprising a planar, one-piece plate 26 having an opening. A seal (o-ring) 22 is disposed within the boundary of the opening. A support ring 24 is disposed within the seal. The plate 26 has a pair of parallel surfaces. The opening allows a flow path perpendicular to the plate. The support ring is chamfered (at 32) on an outer portion. Aichroth does not disclose an orifice in the support ring. Breaker teaches an apparatus between port faces comprising a plate, seal, and support ring. Breaker teaches using an orifice in the support ring to provide fluid communication between the opening and the annular seal. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to use the orifice to provide fluid communication as taught by Breaker.

Aichroth does not disclose bolt holes in the plate 26. Rode teaches an apparatus comprising a plate and seal in the opening. Rode teaches using bolt holes in the plate (see Fig. 9) to ensure proper placement and retainment between elements. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the plate of Aichroth with bolt holes to ensure proper placement and securement.

Regarding claims 31 and 35, Aichroth discloses two chamfers 32 at an angle with the axis of the support ring. However, Aichroth does not disclose that the angle is about 45 degrees. It is not considered inventive to discover the workable or optimum ranges by routine experimentation. See In re Aller, 105 USPQ 233, 235 (CCPA 1955). Therefore, it would have

been obvious for one of ordinary skill in the art at the time the invention was made to make the chamfer at an angle of 45 degrees.

Response to Arguments

6. Applicant's arguments filed 7-6-07 have been fully considered but they are not persuasive.

Rodes teaches the use of bolt holes in an outer plate of a sealing arrangement. Bolt holes will ensure the gasket is properly positioned and secured between mating components. The previous arguments still apply for the rejections that have not been modified with Rodes above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alison K. Pickard whose telephone number is 571-272-7062. The examiner can normally be reached on M-F (10-7:30), with alternate Friday's off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tricia Engle can be reached on 571-272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alison K. Pickard
Primary Examiner
Art Unit 3673

AP